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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/770,788	01/26/2001	Louis L. Hsu	728-194 (YOR9-2000-0858)	8269

7590

12/06/2001

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EXAMINER

NGUYEN, DAO H

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 12/06/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/770,788

Applicant(s)

HSU ET AL.

Examiner

Dao H Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2001 through 14 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 14-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. In response to the communications dated 01/26/2001 through 05/14/2001, claims 1- 42 are active in this application.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I. Claims 1-13, drawn to a memory system, classified in class 257, subclass 200.

Group II. Claims 14-42, drawn to a method for fabricating a T-RAM array, classified in class 438, and subclass 218.

3. The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of following can be shown: (1) that the process as claimed can be use to make other and materially different product or by hand, or (2) that process as claimed can be made by another and materially different process. (MPEP § 806.05(f)). In the instance case unpatentabilities of the group I invention would not necessarily imply unpatentability of the group II invention, since the device of the group I invention could be made by the processes materially different from those of the group II invention.

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4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, the fields of search are not co-extensive. Therefore, separate examination would be required and restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Attorney Paul J. Farrell, Esq. on 11/16/2001, a provisional election was made without traverse to prosecute the invention of Group I, claims 1-13 which are directed to a memory system.

Affirmation of this election of claims must be made by applicant in replying to this Office action.

6. Claims 14-42 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the **cancellation** of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(h).

Drawings

8. The drawings are objected to for the following reasons.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Fig. 13 does not show the reference numbers 230 and 240 as indicated in page 7, line 24 and reference number 138 in page 7, line 27 of Applicant's specification. Correction is required.

9. Applicant is required to submit a proposed drawing correction, showing changes in red ink, in response to this Office action. However, formal correction of the noted defect(s) can be deferred until the application is allowed by the examiner (see MPEP § 608.02v).

Information Disclosure Statement

10. This office acknowledges of the following items from the Applicant.

Information Disclosure Statement (IDS) filed on 1/26/2001 and made of record as Paper No. 5. The references cited on the PTOL 1449 form have been considered.

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11. The dependency of claim 13 is changed to direct to claim 8 instead of claim 1 as requested by Attorney Paul J. Farrell, Esq. during the telephone conversation 11/16/2001.

Claim Rejections - 35 U.S.C. § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-13 are rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. patent 6,229,161 to Nemati et al. in view of Kuriyama, U.S. patent 5,945,715 and in view of the following remark.

Regarding to claims 1 and 8, Nemati et al. disclose a memory system or a T-RAM array as shown in figure 1-8, comprising:

A plurality of 'T-RAM cells arranged in an array (See more on column 2, lines 28-65, column 4, lines 11-26);

Nemati et al. do not disclose first and second devices connected to the array or interconnected with the plurality of T-RAM cells; Kuriyama discloses first and second

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devices (peripheral circuitry), as shown in Kuriyama's figures 1-34, connected to, or interconnected with, an array of memory cell part, or an SRAM, wherein each of the cells is fabricated by simultaneously fabricating a first portion of the cells and the first devices, and simultaneously fabricating a second portion of the cells and the second devices. It would have been obvious to one of ordinary skill in the art at the time the invention was made that in order to use the array of T-RAM cells, the T-RAM Cells must be connected to the peripheral circuitry or devices, and the devices like that of Kuriyama is certainly can be used.

Regarding to claims 2 and 9, Nemati et al. disclose the memory system wherein the first portion 12 of each of the plurality of T-RAM cells is a transfer gate and the second portion 10 of each of the plurality of T-RAM cells is a gated-lateral thyristor storage element. See figure 1 and column 4, lines 11-15 of Nemati et al.

Regarding to claims 3 and 10, Nemati et al. in view of Kuriyama disclose the claimed memory system except for each of the plurality of T-RAM cells has a size of less than or equal to $6F^2$. It would have been an obvious matter of design choice to fabricate the T-RAM cell of Nemati et al to have the size of less than or equal to $6F^2$, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Regarding to claims 4 and 11, Nemati et al. in view of Kuriyama disclose the memory system wherein the plurality of T-RAM cells and the first and second devices are fabricated on a semiconductor SOI or bulk wafer 16 as shown in figure 1 of Nemati et al. and figures 1-16 of Kuriyama.

Regarding to claims 5 and 12, Nemati et al. in view of Kuriyama disclose the memory system wherein the first devices are nMOS support devices and the second devices are p-MOS support devices. See figures 1-31 of Kuriyama.

Regarding to claim 6. Nemati et al. in view of Kuriyama and further in view of the above remark disclose the memory system wherein the first and second devices are interconnected with the plurality of T-RAM cells.

Regarding to claims 7 and 13, Nemati et al. disclose the memory system wherein each of the plurality of TRAM cells has a planar cell structure. See figure 6a and column 16, lines 18-28 of Nemati et al.

Conclusion

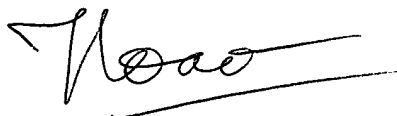
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14. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to become abandoned (see M.P.E.P 710.02(b)).

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dao Nguyen whose telephone number is (703) 305-1957. The examiner can normally be reached on Monday-Friday 8:30 am-6:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (703) 308-4910. The fax numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Dao H. Nguyen
Art Unit 2818
November 23, 2001

David Nelms
Supervisory Patent Examiner
Technology Center 2800